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INFORMATION ON CHINESE RAILWAYS

Thanks to the aid of Soviet experts, who brought with them knowledge of bridge-building acquired during the war, the status of the railway bridges has improved greatly. The Soviet experts did not operate according to the conservative repair methods which are customary in China. They used welding processes primarily, and were often able in this way to cut the recommended repair time in half. For example, the large bridge over the Hsiang Chiang near Chu-chou on the Chu-chou--Kuei-yang Railway was repaired in only 35 days. The bridge over the Hwai Ho near Pang-fou on the Tientsin--P'u-k'ou Railway, the repair of which was expected to take 6 months, was repaired in only 60 days.

The bridges have been restored to full capacity and have been given protective coats of paint. The bridges on the Peiping-Mukden Railway, the Tientsin-P'u-k'ou Railway, the Chiao-chi Railway, and the Nanking-Shanghai Railway were restored by the end of 1949. The bridges on the Shanghai-Hangchow-Ning-po Railway, the Chekiang-Kiangsi Railway, and the Canton-Hankow Railway were completed early in 1950. In particular, the old bridge over the Huang Ho near Cheng-chou, which had already been in use for more than twice as long as it was guaranteed for, was temporarily reinforced with Soviet assistance. A bridge on the Canton-Chiu-lung (Kowloon) Railway was still lacking in mid-1950, but it should since have been completed. The bridges on the Lung-hai Railway between Siar and the Lien-yun Chiang were completed early in 1950. On the Hunan-Kwangsi Railway, 42 destroyed bridges were restored.

- 1 -

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50X1-HUM

In Manchuria, all bridges on the Peiping-Mukden Railway and on the Chinese Ch'ang-ch'un Railway between Shan-hai-kuan and Man-chou-li were restored early in 1950. The bridge over the Pai-tu Ch'ang between Ch'i-ch'i-ha-erh and Pai-an was salvaged by building three underwater piers. Otherwise, repair work on it would have taken two months.

In Feng-t'ai, near Peiping, there is a stockpile of bridge-building material, some of it still from captured Japanese stocks.

New bridge construction under way includes a replacement for the old bridge, mentioned above, over the Huang Ho near Cheng-chou (Peiping-Hankow Railway) and a large bridge near Hankow over the Yangtze River to connect the Peiping-Hankow Railway and the Canton-Hankow Railway. The piers for both bridges were to have been completed by the end of 1950. It should be possible to find out in Hong Kong whether this was actually the case.

The status of the tracks has improved considerably since 1949. New ties and ballast were put in on the Peiping-Mukden Railway and also on the Tientsin-P'u-k'ou Railway. The Communist practice during the Civil War (1945 - 1949) of tearing up whole stretches of track and burying the rails provided new material for track after the Communists assumed power. Furthermore, unimportant railways, such as the Te-Hsien-Shih-chia-chuang Railway, are being torn up in order to use the rails elsewhere.

It is planned to double-track the Peiping-Mukden Railway for its entire length. The Chinese Ch'ang-ch'un Railway is also to be double-tracked from Dairen to Man-chou-li. The Minister of Railroads, T'eng Tai-yuan, has indicated that 100,000 tons of rails, valued at 10 million US dollars, will be needed for this purpose. Rails were ordered at the end of 1949 in England (50,000 tons?), in Germany, and in France (130,000 tons). Whether or not deliveries were made can be learned only in Hong Kong. Ties were imported in great quantity from Chia-mu-ssu in Manchuria. They were laid continuously on all stretches, but were not given any protective coating. Ballast is constantly replaced.

The signals are in better condition than they were formerly. The Shan-hai-kuan workshops deliver the equipment required for new installations and for maintenance.

In 1950, 22,000 kilometers of railroad were in full operation, and 500,000 laborers and office workers were employed in the operations. A total of 10,000 passenger and freight cars made a daily round trip of 440,000 kilometers. These cars were kept in running order in 26 workshops by 37,000 workers. A total of 1,500 locomotives and 15,000 passenger and freight cars were serviced. Replacement parts are produced in the shops. The rolling stock is used on all roads without restriction, so that the improved conditions of maintenance are in evidence everywhere.

[redacted] the Tientsin-P'u-k'ou Railway [redacted] is 1,009 kilometers long and has 244.8 kilometers of feeder lines. It links the most important part of North China with the Yangtze valley, and therefore handles a great deal of through traffic. In peacetime, coastal shipping, inland shipping, and air transport competed with the railroad, but at present coastal shipping is cut off by the blockade of Formosa, the inland waterways serve only local traffic, and civil air transport has not regained even a fraction of its prewar proportions. Roads, because of their poor condition, play no role in long-distance shipping. Of the traffic on the Tientsin-P'u-k'ou Railway, 44.5 percent is passenger traffic and 55.5 percent is freight. On the

50X1-HUM

- 2 -

CONFIDENTIAL

CONFIDENTIAL

CONFIDENTIAL

CONFIDENTIAL

50X1-HUM

P'u-k'ou--Lin-ch'eng section (400 kilometers), there are 17 trains a day in each direction. On the Lin-ch'eng--Tientsin section, there are only ten trains a day, averaging 39.37 kilometers an hour. Thus the first section is the most important. The number of trains a day in the first section could be raised to 20 in each direction. The following addition measures could be taken to increase the road's performance: (a) increase in the weight of trains; (b) reduction in the distance between stations; (c) increase in the rate of speed.

The Ministry of Railways has improved the condition of maintenance of the locomotives (heaviest type Santa Fe) in order to utilize their hauling power to the utmost. The time required for repairs in the shops has been reduced, in order to keep more locomotives in operation, that is, to double the available traction power. The locomotives are assigned to the various operational units with regard to the difficulty of the road, so that the heaviest types are used on the sections with the steepest grades.

A new station was built between Ch'u-chou and Sha-ho-chi in order to cut in half the distance of 13.63 kilometers.

In order to run heavier trains safely and at greater speeds, more cars are to be equipped with air brakes.

The length of the passing sidings at junctions and passing stations should be great enough to accommodate the longest trains.

The permanent way of the railways is in good condition. The weight of rails, 41 kilograms per meter, is adequate if the distance between the ties is reduced to 0.67-0.70 meter. The Ministry of Railways has the ties replaced continuously.

The bridges on the Tientsin--P'u-k'ou Railway were repaired in 1950 with Russian assistance and were reinforced throughout to carry Cooper E 35 freight trains and in some cases even Cooper E 50 freight trains. The large Huang Ho bridge near Tsinan is in operation. All these measures indicate that double-tracking would not be absolutely essential for increasing the road's capacity. At any rate, double-tracking would probably be limited to the P'u-k'ou--Lin-ch'eng section.

A Ta-t'ung--T'ang-ku line is under construction, to be used exclusively for freight. It is designed to relieve the Peiping-Suiyuan Railway between Ta-t'ung and Peiping of having to carry the coal trains from Ta-t'ung.

- 3 -

CONFIDENTIAL

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50X1-HUM

a. The road was started by the Japanese in 1943. The new line is planned to run from Ta-t'ung directly to Sha-ch'eng, avoiding Kalgan, and from Sha-ch'eng to the Peiping-Men-t'ou-kou Railway.

b. The Japanese had extended the Peiping-Men-t'ou-kou Railway as far as Tung (East) Ch'i-t'ang and had built 16 piers in the Yung-ting Chiang for a railway bridge. In comparison with the steepest grade on the Peiping--Suiyuan Railway (33 percent, Nan-k'ou pass), the new Sha-ch'eng--Men-t'ou-kou section, 105 kilometers long, will have a grade of only 10 percent. Fifty tunnels totaling 28,000 meters in length and nine bridges totaling 3,000 meters in length will have to be built. At Tzu-chin-shan, near Men-t'ou-kou, a large switching yard is planned, which will serve the Men-t'ou-kou mines and the Lung-yen ironworks.

From the very beginning it was planned that the Ta-t'ung--T'ang-ku line should be electrified. In any case, this is one of the projects in the Five-Year Plan (1949 - 1954) of the present Ministry of Railways.

The Five-Year Plan also includes the extension of the Pao-t'ou--Lan-chou section (1,007 kilometers-- that is, the extension of the Peiping--Suiyuan Railway to the west) and the Lan-chou--T'ien-shui section (378 kilometers -- that is, junction with the Lung-Hai railway).

c. A direct line between Feng-t'ai and T'ang-ku harbor was also planned. It is not clear whether the Ministry of Railways is continuing this project, since the Peiping-Mukden Railway is already double-tracked between Peiping and T'ang-ku. The Peiping-Mukden Railway would naturally continue to be used for other traffic.

Further construction is being carried on in T'ang-ku harbor. The first pier was finished in 1942. Since then, four piers have been completed, in order to be able to transship 7.5 million tons of freight a year. T'ang-ku is especially important for shipping coal, iron, aluminum, and raw cotton. Ships up to 10,000 tons can enter T'ang-ku harbor.

50X1-HUM

e. Some of the bridge materials comes from Japanese stock. The Soviet-Chinese trade agreement of 1950 also provides for deliveries of such materials.

50X1-HUM

Up to the beginning of 1950, about 500 kilometers of rails had been delivered by the USSR, which were used for the reconstruction of the Peiping-Hankow Railway and the Canton-Hankow Railway. With the assistance of Russian experts, 14 kilometers of track were laid a day (3.5 kilometers a day previously).

50X1-HUM

There is undoubtedly a shortage of locomotives. The old locomotives are rapidly being repaired with Russian experts' assistance. Today, 87 percent of all railway workers are organized into rail workers' unions. By raising their social status and by appealing to their desire for recognition (Hero of Labor, following the Soviet pattern), it has been possible to reduce the period of time for repairing locomotives from 6 months to one month.

- 4 -

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Before the war (1937), China proper had: 1,272 locomotives, or one per 6.3 kilometers; 2,090 passenger cars, or one per 3.3 kilometers; and 16,342 freight cars, or one per 0.49 kilometer. In 1945, Manchuria had: 2,130 locomotives, or one per 5.4 kilometers; 3,072 passenger cars, or one per 3.8 kilometers; and 30,450 freight cars, or one per 0.38 kilometer. Of this stock, only 3 percent was found by the Chinese when they took over in September 1945. The remainder had been shipped out by the Soviets as Japanese war booty. Some of this rolling stock has been returned or resold to the government of the People's Republic of China.

The Peiping Ministry of Railways stated that on 1 September 1950 the whole of China, including Formosa and Hainan, possessed 26,857 kilometers of railways. Subtracting the railways in Formosa and Hainan -- approximately 3,925 plus 55 kilometers -- leaves 22,877 kilometers in all of China today. For this length of roads there were available: 1,500 locomotives, or one per 15.2 kilometers, and 15,000 passenger and freight cars, or one per 1.52 kilometers.

Since traffic has increased heavily, there must therefore be a great shortage of locomotives and cars. I should estimate it at 3,200 locomotives and 43,000 freight cars. The Ministry of Railways ordered about 60 locomotives in Poland and Czechoslovakia in 1950.

The shortage of freight cars is made up for to some extent by faster "turnover" in operation. For the first time in the history of Chinese railways the Ministry of Railways, with Soviet aid, has set up a central car-distribution office. It has proved possible to keep track of the actual number of freight cars available on a given day and to determine their whereabouts.

50X1-HUM

On the Tientsin-P'u-k'ou Railway, for example, the "turnover" was reduced from 4 days to 2.58 days. In this way, approximately 200 freight cars a day could be set free for other use. This increase of 73 ^{sic} percent in cars available for loading was achieved without investing capital for producing new cars. Furthermore, the repair of cars in the workshops was expedited.

50X1-HUM

uniform passenger and freight rates were introduced for all of China. It is an indication of the rational management of the railways and of the recovery of the Communist currency that as early as June 1950 it was possible to reduce the rates.

The following new traffic was introduced: coal shipments from Ta-t'ung to T'ang-ku, coal shipments from Ch'in-huang-tao to P'u-k'ou and Shanghai (via Tientsin), coal shipments from Ta-t'ung and Men-t'ou-kou to P'u-k'ou, and grain shipments from Manchuria to North China.

b. Through trains from Hong Kong to Shanghai via Chu-chou--Man-ch'ang were introduced. Military transports have been running North China to Manchuria (Korean border) since June 1950.

50X1-HUM

- 5 -

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The yearly production possibilities were as follows:

a. Manchuria	<u>Locomotives</u>	<u>Cars</u>
Manchu Sharyo (Rolling Stock [Co]), Mukden	80	700
Manchu Ironworks, Mukden	--	250
Mukden Arsenal, Mukden	--	200
Sha-ho-k'ou Works, Dairen	100	400
Dairen Kikai (Machinery) Company	--	400
Dairen Shipyard	--	300

50X1-HUM

b. China	<u>Locomotives</u>	<u>Cars</u>
T'ang-shan Workshops	--	About 100
Ch'i-shu-yen Workshops	--	100
Ssu-fang Workshops	10	500
T'ai-yuan Workshops	20	1,000

All the above figures are estimates.

For the Ch'eng-tu--Chungking Railway, which is again under construction since early 1950, one workshop is being built in Ch'eng-tu.

For the Hunan-Kwangsi Railway, there is a shop in Kuei-lin which has been in existence since 1938.

On the Kwangsi-Kweichow Railway there is a shop in Liu-chou. The last two shops are equipped with machines and cranes which were moved there during the Japanese war.

50X1-HUM

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